

## Aerial Detection Survey Update

**Background:** Annual aerial detection surveys for tree mortality and injury have been conducted annually since 1994. This is an update of survey status for the 2014 season.

**Objective:** Detect and map tree mortality and damage in California / USFS Region 5.

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**Date:** August 11<sup>th</sup> to 14<sup>th</sup>, 2014

**Methodology:** Recently dead and damaged trees (still retaining dead foliage) were mapped visually by surveyors using digital aerial sketch-mapping systems, flying in a light fixed-wing aircraft approximately 1,500 feet above ground level. Surveyors record the number and species of affected trees and type of damage (mortality, defoliation, etc.) at each mapped location.

### Details:

- Almost 3.9 million acres were surveyed, covering much of the Stanislaus and Eldorado National Forests, the Lake Tahoe Basin Management Unit, and parts of the Tahoe National Forest and Yosemite National Park. See Figure 1.
- The Stanislaus had extensive mortality in much of the area not burned by the Rim Fire. This mortality consisted mostly of ponderosa pine and true fir mortality, and was more extensive than last year. Figures 2 and 3.
- Mortality on the Eldorado, the Tahoe Basin, and the Tahoe National Forests was overall relatively light, however all these areas experienced a large increase in true fir mortality, especially on the southern Eldorado and parts of Yosemite. Figure 4.
- An area with abundant Douglas-fir mortality, probably from flat-headed fir borer, was observed on private land along the American River near Placerville.
- Discoloration from Jeffrey pine needleminer was visible from the air at one location in South Lake Tahoe, as was some defoliation from lodgepole needleminer in Yosemite.
- Aspen defoliation, likely from Satin moth, were observed in the Tahoe Basin.

Figure 1. Flown area and mapped tree mortality and damage

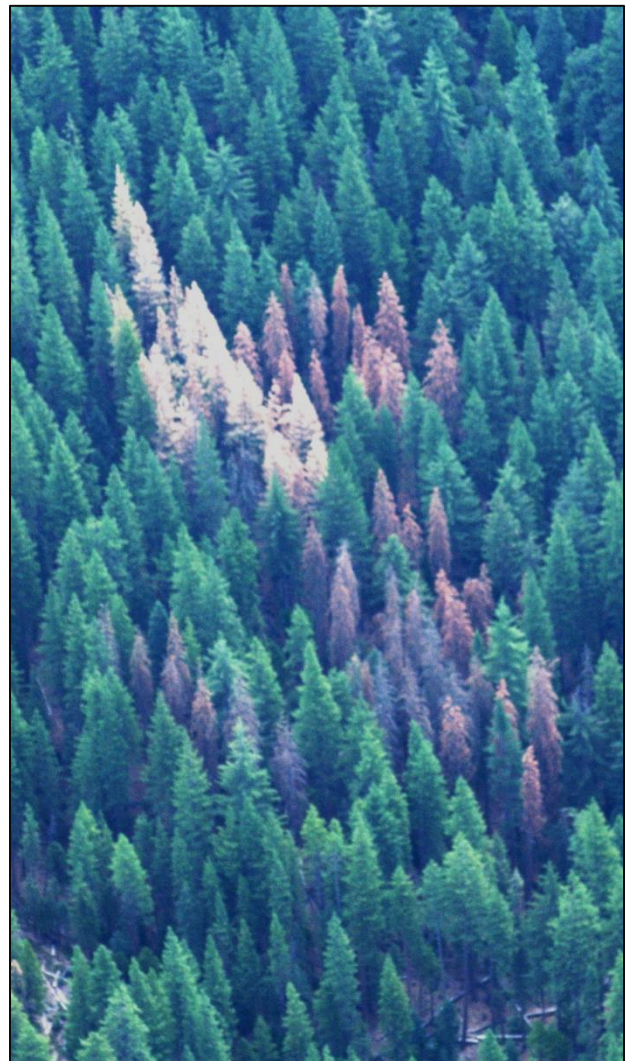
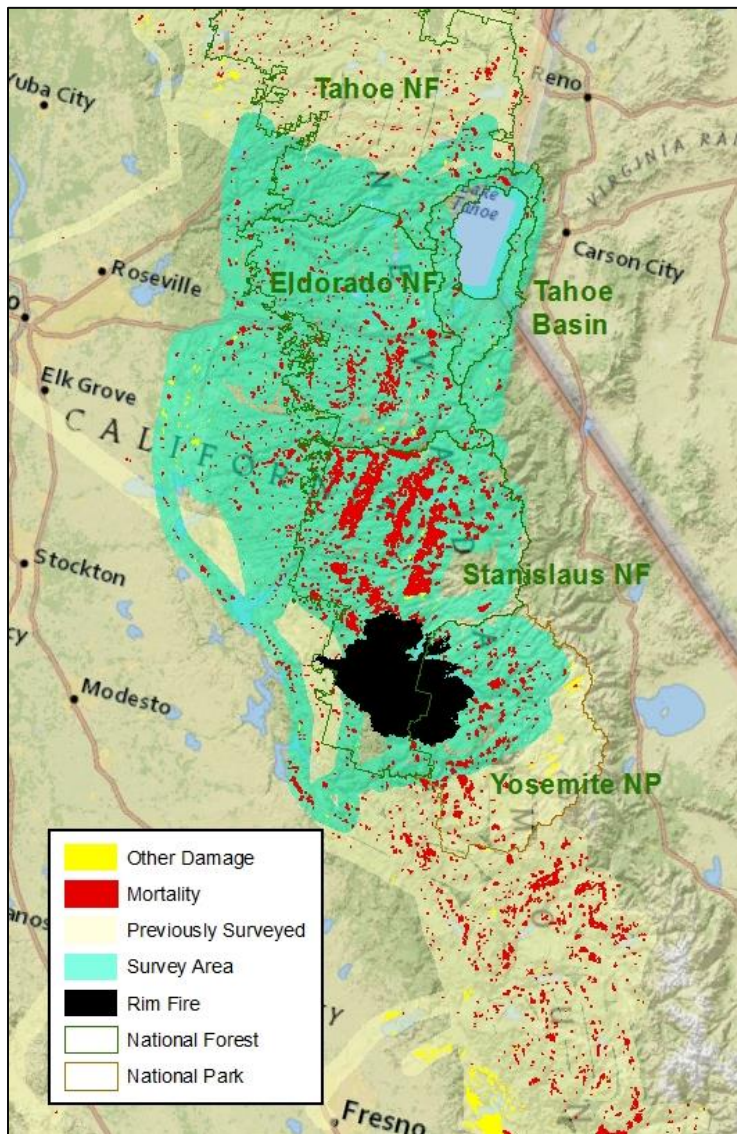


Figure 2. Pocket of recent and older pine mortality on the Stanislaus National Forest.





Figure 3. Fir mortality near Waterhouse Lake, Stanislaus National Forest.

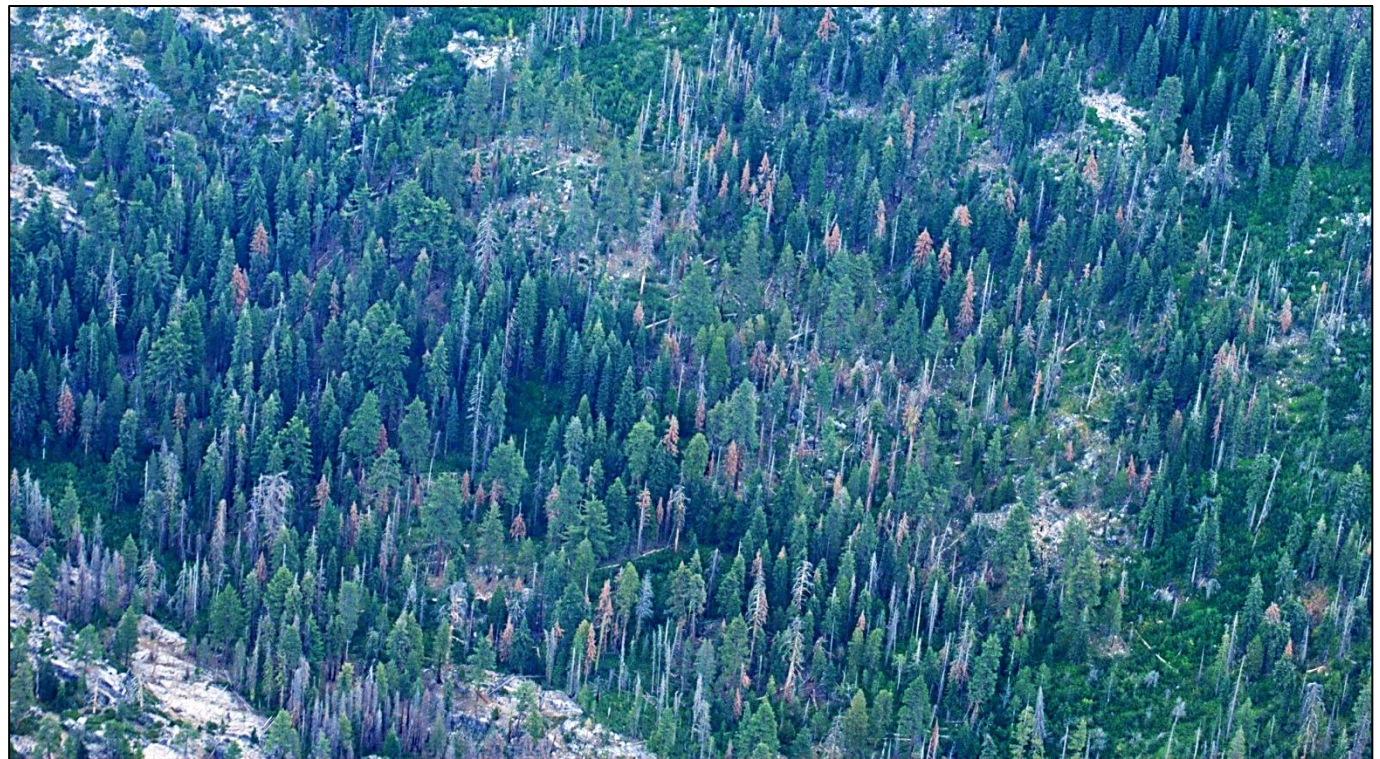


Figure 4. Fir mortality near Hetch Hetchy Reservoir, Yosemite National Park.

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